

KONOVALOVA, G. F.

35494. Tuberkulinoterapiya pri tuberkuleznykh zabolevaniyakh. Glas. Trudy  
sev. -oset. Gos. Med. In-ta, vyp. 4, 1949, c. 170-73.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

35564 KONOVALOVA, G. F. Primeneniye Penitsillina v Glaznoy Praktike. Trudy sev.-oset. Gos. Med. In-ta, vyp. 4, 1949, c. 196-201

SO: Letopis Zhurnal'nykh Statey, Vol. 45, 1949

4622/AD3

PHASE I BOOK EXPLOITATION

**25(1,5)**

Moscow. Dom nauchno-tekhnicheskoy propagandy izdati P.E. Dzerzhinskogo.

Novyye v tekhnologii vysokeproizvoditel'noy listovoy atkayevki; sbornik trudov konferentsii (New Features in the Methods of High-productivity Sheet Fetal Stampings) Collection of Conference Transactions) Moscow, Mashgit, 1959. 228 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy **VEPSE**.

Assoc. Prof. V. V. Meshcherin, Doctor of Technical Sciences, Professor, Kd. 44; V. D. Golovinski, Candidate of Technical Sciences, Docent and Asst. Prof. V. V. Meshcherin, Candidate of Technical Sciences, Docent and Asst. Prof. V. V. Meshcherin, Candidate of Technical Sciences, Docent, Ed. of Publishing House: G. N. Sokolov, Tech. Ed.: B. I. Medvedev, Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This collection of papers is intended for engineers and technicians in sheet metal stamping. It may also be useful to students of vuzes and tekhnikums.

**COVERAGE:** This collection deals with the design and features of some current problems in sheet metal stamping. Also included are processing methods still in the experimental stage. Several articles deal with the mechanization and automation of stamping processes and describe recently developed methods, such as expansion forming, the use of automatic rotary transfer lines, and press blocking with the use of radioactive isotopes. No articles dealing with the use of radioactive isotopes are mentioned. References follow several of the articles.

Artem'yev, S.I. [Engineer, Gorkiy Motor Vehicle Plant].  
New Features in the Automation of Sheet Metal Stamping at  
the Gorkiy Motor Vehicle Plant

The article discusses devices for automatic removal of formed parts from the press, devices for automatic feeding of sheet metal into the die, and devices for complete automation of the forming process.

Nikolaev, V.V., and B.V. Sorokin-Lavrovskoy (Inst. Likhachev, Moscow) "Moscow Motor Vehicle Plant Internal Likhachev". Experience of the Motor Vehicle Plant Internal Likhachev with High-productivity Progressive Die Stamping Compound, combination, and progressive die with rectilinear and circular feeding motion of blanks are described. Mechanization of feeding and removal of stamped parts and scrap are discussed.

199  
Pillna, I. S. [Engineer, Zavod "Krasnaya Zarya," Leningrad (Central "Red Sunrise" Plant)]. Transfer Machine for Mixing Contact Springs  
Arrangement and operation of a universal transfer machine for making springs for flat relays is described. Reductions in cost, time, and man-hours are shown.

Arrangement and operation of a universal transfer machine for making springs for flat relays is described. Reductions in costs, time, and man-hours are shown.

**Onoualova, I. I.** [Engineer, Zavod "Metallizatsiya, Leningrad (Leningrad Metal Products Plant)]. Transfer Machines for Making Safety-razor Blades

Fabricating processes and machinery for automatic lines are described, and information on tool life, heat treatment, grinding, and pecking of blades is given.

206

**Making Safety-Razor Blades**  
Fabricating processes and machinery for automatic lines are described, and information on tool life, heat treatment, grinding, and packing of blades is given.

Man'kov, Ye. N. [Candidate of Technical Sciences, Docent, Moscow Machine Tool and Instrument Institute]. Selection of a Crank Press for Acquired Force and Work Parameters. The author discusses flywheel effect, the meaning of nominal force (capacity), the magnitude of force at various angles of the crank, the work delivered by motor and flywheel, and the work of deformation. Recommendations for selecting the proper press for a given stamping operation are presented.

for a Crank Press for Required Force and Work Parameters. The author discusses flywheel effect, the meaning of nominal force (capacity), the magnitude of force at various angles of the crank, the work delivered by motor and flywheel, and the work of deformation. Recommendations for selecting the proper press for a given stamping operation are presented.

AVAILABLE: Library of Congress

Card 9/9

GO/ajr  
10-21-59

ALEKSEYEVA, Ye.A., inzh.; GRUZDOV, A.P., inzh.; IL'IN, Ye.P., inzh.; KONOVALOVA  
I.N., inzh.; MAKSIMOVA, O.V., inzh.; SHTREMEL', M.A., inzh.

Temperature dependence of elastic properties of thin-sheet spring  
alloys. Priborostroenie no.9:25-27 S '65.

(MIRA 18:10)

BOTVINIK, M.M.; KONOVALOVA, I.M.

Reactions of N-imidazolacyl derivatives of histidine with serine derivatives. Zhur. ob. khim. 35 no.6:1123 Je '65.

(MIRA 18:6)

ACC NR: AP5028963

SOURCE CODE: UR/0119/64/000/009/0025/0027

AUTHOR: Alekseyeva, Ye. A. (Engineer); Gruzlov, A. P. (Engineer); Il'in, Ye. P. (Engineer); Kononova, I. N. (Engineer); Maksimova, O. V. (Engineer); Shtremel', M. A. (Engineer)

ORG: none

TITLE: Effect of temperature on elastic properties of thin-sheet spring alloys

SOURCE: Priborostroyeniye, no. 9, 1964, 25-27

TOPIC TAGS: spring, measuring instrument, industrial instrument

ABSTRACT: The results are reported of measurements of the elastic limit  $\sigma$  (with residual strains of 0.01 and 0.005%) and elasticity modulus E in bending of 85-120-micron thick specimens ( $10 \times 100$  mm) of BrOF6, 5-0, 15, BrKMTs 3-1, BrB2, BrBNT 1, 9 bronzes, 60S2, EI814 steels, and N36KhTYuM8 alloy at temperatures that ranged from  $-70^{\circ}\text{C}$  to  $+150$  or  $+500^{\circ}\text{C}$ . Also, the ultimate strength  $\sigma_u$  and the yield point  $\sigma_s$  of  $0.1 \times 10$ -mm 57-mm long specimens were determined. All specimens were thermally treated according to specifications normally used in the

Card 1/2

UDC: 620.172.22:62-415:536.49

new method of synthesis of unsaturated  
the aromatic acids. XXVI  
acid of phenanthrene is obtained  
method of unsaturated aromatic acids.

inght elevation of temp. But the patient is dead.

**COP(SO<sub>2</sub>R)<sub>n</sub>**, b<sub>p</sub> 155-6°, n<sub>D</sub><sup>20</sup> 1.4811, d<sub>4</sub><sup>20</sup> 1.1972. A solution of (RO)<sub>2</sub>POH to esters of HCNs and phenyl and allyl mustard oils in the presence of EtONa resulted in an apparent reaction in each case but the alkoxis decomposed during attempted distn. Addition of CH<sub>3</sub>I to equimolar mixts. of AcOCH<sub>2</sub>CH<sub>2</sub> and either (EIO)<sub>2</sub>PSH or RPH(O)OR gave similarly: 43% BIOPE(OMe)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OAc, b<sub>p</sub> 110-111°; n<sub>D</sub><sup>20</sup> 1.4361, d<sub>4</sub><sup>20</sup> 1.0844; 51.5% BIOPE(PhO)CH<sub>2</sub>CH<sub>2</sub>OAc, b<sub>p</sub> 123-124°; n<sub>D</sub><sup>20</sup> 1.4412, d<sub>4</sub><sup>20</sup> 1.0104; 35% BIOPE(OMe)CH<sub>2</sub>CH<sub>2</sub>OAc, b<sub>p</sub> 149-50°; n<sub>D</sub><sup>20</sup> 1.4990, d<sub>4</sub><sup>20</sup> 1.1329; 35% (EtO)<sub>2</sub>PS-CH<sub>2</sub>CH<sub>2</sub>OAc, b<sub>p</sub> 125-7°, n<sub>D</sub><sup>20</sup> 1.4690, d<sub>4</sub><sup>20</sup> 1.1107 (the mixt. in this case must be heated preliminarily with EtONa to effect complete reaction); and 44% BIOPE(OMe)CH<sub>2</sub>CH<sub>2</sub>OAc from CH<sub>3</sub>CH=CH(CH<sub>2</sub>)<sub>2</sub>PO(OH)(OAc) + EtONa.

*Novosy Azovsk. 1957*  
PUDVIK, A.N.; KONOVALOVA, I.V.

New method for the synthesis of phosphinic and thiophosphinic acids.  
Part 28: Reaction of incomplete phosphorous acid esters with  
 $\alpha, \beta$ -unsaturated cyclic ketones and cyclohexenol acetate. Zhur.  
ob.khim. 27 no.6:1617-1621 Je '57. (LRA 10:7)

1. Kazanskiy gosudarstvennyy universitet.  
(Phosphorous acid) (Cyclohexenol) (Ketones)

AUTHORS: Pudovik, A. N., Konovalova, I. V. 79-28-5-16/69

TITLE: A New Method of Synthesis of the Esters of Phosphinic and Thiophosphinic Acids (Novyy metod sinteza efirov fosfinovykh i tiofosfinovykh kislot) XXIX. Addition of Dialkylphosphorous Acids to the Esters of the Vinyl-Alkrylic- and Sorbic Acid, as Well as to the 3,5-Heptadienone-2 (XXIX. Prisoyedineniye dialkilfosforistykh kislot k efiram vinilakrilovoy, sorbinovoy kislot i 3,5-septadiyenonu-2)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1208 - 1211 (USSR)

ABSTRACT: In continuation of earlier papers (Reference 1) the authors describe the results of the addition reactions of dimethylphosphorous and diethylphosphorous acids to the esters of the  $\beta$ -vinylakrylic- and sorbic acids, to 3,5-heptadienone-2, and to the diethylester of butadienephosphinic acid. Alkali alcoholates were used as catalysts in these reactions. All reactions take a vigorous course and are accompanied by a considerable heat effect. Products of the addition of one or two molecules were obtained as result of the addition of diethylphosphorous acid (in excess) to the ethylester of  $\beta$ -vinylakrylic

Card 1/3

79-28-5-16/69

A New Method of Synthesis of the Esters of Phosphinic and Thiophosphinic Acids. XXIX. Addition of Dialkylphosphorous Acids to the Esters of the Vinyl-Alkrylic- and Sorbic Acid, as Well as to the 3,5-Heptadienone-2

acid, namely: the ethylesters of 4-(diethylphosphonium)butene-2-carboxylic acid (formula I of scheme 1) and 2,4-di-(diethylphosphonium)butanecarboxylic acid (II). The structure of (I) was hardened by ozonization and decomposition of the ozonides. The binding of diethylphosphorous acid to the ethylsorbinate also leads to the formation of two products (III and IV of scheme 2). Product (III) contains a double bond and represents a product of the addition of a molecule of diethylphosphorous acid. From the obtained ozonization results could be concluded that (III) represents mainly a  $\gamma,\delta$ -product of the addition, which contains the forms  $\alpha,\beta$ - or  $\alpha,\delta$ -(or both together). Product (IV) does not contain a double bond and represents an addition product of two molecules of diethylphosphorous acid to 3,5-ethylsorbinate. In the case of the addition of diethylphosphorous acid to 3,5-heptadienone-2, compound (V) with a double bond resulted. By ozonization

Card 2/3

79-28-5-16/69

A New Method of Synthesis of the Esters of Phosphinic and Thiophosphinic Acids. XXIX. Addition of Dialkylphosphorous Acids to the Esters of the Vinyl-Alkrylic-and Sorbic Acid, as Well as to the 3,5-Heptadienone-2

and further treatment of the ozonides this formula was proved.  
There are 2 references, which are Soviet.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: May 3, 1957

Card 3/3

S/079/60/030/007/014/020  
B001/B067

AUTHORS: Pudovik, A. N., Konovalova, I. V.

TITLE: A New Method of Synthesizing the Esters of Phosphinic and Thiophosphinic Acid. XXXIV. Addition of Dialkyl Thiophosphorous Acids and Acid Esters of Ethyl- and Phenyl Phosphinic Acid to Unsaturated Hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2348 - 2352

TEXT: In continuation of their earlier paper (Ref. 1) the authors studied the addition reactions of dialkyl thiophosphorous acids and acid esters of alkyl- and aryl phosphinic acids. They proceeded from diethyl-, di-n-propyl-, diisopropyl-, di-n-butyl thiophosphorous acid, from methyl-, ethyl-, butyl ester of ethyl phosphinic acid, and from methyl-, ethyl ester of phenyl phosphinic acid. The addition was made to hydrocarbons of the aliphatic series, from heptene-1 to undecene-1, and to cyclohexene. The reactions took place under irradiation of the reaction mixtures with a mercury-quartz lamp or under heating in the presence of

Card. 1/3

A New Method of Synthesizing the Esters of Phosphinic and Thiophosphinic Acid. XXXIV. Addition of Dialkyl Thiophosphorous Acids and Acid Esters of Ethyl- and Phenyl Phosphinic Acid to Unsaturated Hydrocarbons S/079/60/030/007/014/020 B001/B067

benzoyl peroxide. In both cases, the same alkyl thiophosphinates, dialkyl phosphinates, and the esters of alkyl-phenyl phosphinic acids were obtained with yields of 40-65%. A scheme of the reaction course is given. The reactions (1-3) show the initiation process and the growth of the chain, as well as the formation of the addition product. Reaction (4) causes the formation of the polymer residue at the expense of further telomerization. At an equivalent ratio of the initial reagents the polymeric residue is formed in a quantity of 10-15% of the addition product. It was shown that the dialkyl thiophosphorous acids and the acid esters of phosphinic acids add to olefins even without catalysts; a prolonged heating at 135-140° is sufficient. The addition products which were obtained by irradiation on the one hand and by the presence of benzoyl peroxide on the other are identical. The reaction rate in the case of cyclohexene was characterized by a change in concentration of the acid in the reaction mixture. It was shown that with increasing radical the phosphinate yield is gradually and slowly reduced (Fig. 1).

Card 2/3

A New Method of Synthesizing the Esters of Phosphinic and Thiophosphinic Acid. XXXIV. Addition of Dialkyl Thiophosphorous Acids and Acid Esters of Ethyl- and Phenyl Phosphinic Acid to Unsaturated Hydrocarbons S/079/60/030/007/014/020 B001/B067

The alkyl thiophosphinates, dialkyl phosphinates, and alkyl-phenyl phosphinates are characterized in Tables 1 and 2. The acids obtained from them by saponification are given in Table 3. On the basis of the experimental results the authors arrived at the conclusion that the addition of dialkyl thiophosphorous acids to olefins in both cases does not proceed according to the Markovnikov rule but to the radical mechanism (Scheme 2). There are 2 figures, 3 tables, and 2 Soviet references.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: July 6, 1959

Card 3/3

KONOVALOVA, I. V.

Cand Chem Sci - (diss) "Addition of unsaturated nepolnyye esters of phosphorus acids to non-saturated electrophilic compounds and non-saturated hydrocarbons." Kazan', 1961. 12 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Kazan' Chemical Technology imeni S. M. Kirov); 150 copies; price not given; (KL, 7-61 sup, 222)

PUDOV, A.N.; KONOVALOVA, I.V.

New method of synthesizing esters of phosphinic and thiophosphinic acids. Part 35: Addition of phosphorus pentochloride to diene hydrocarbons and of partial esters of phosphorus acids to butadiene-phosphinic esters. Zhur.ob.khim. 31 no.4:1693-1699 My '61.  
(MIRA 14:5)

1. Kazanskiy gosudarstvennyy universitet.  
(Phosphinic acid)

25367

S/079/61/031/008/005/009  
D215/D304

15.8150

AUTHORS: Pudovik, A.N., Konovalova, I.V., and Durova, O.S.

TITLE: A new synthesis method of phosphinic and thiophosphinic acids and esters. XXXIII. Synthesis of unsaturated phosphonic and thiophosphonic acids esters

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 8, 1961, 2656-2661

TEXT: This study is a continuation of previous investigations, in which it was found that derivatives of unsaturated acids of phosphorus can be obtained by adding to their incomplete esters acetylene compounds, activated with some electron repellent groups in presence of an alkaline catalyst. In this work it is shown that this method may be applied to acetylene compounds directly in conditions stimulating the mechanism of free radicals chain addition. As incomplete esters of phosphorus acids, the following compounds were used: dimethyl and diethyl-phosphorous acid esters, diethyl and di-isopropylthiophosphorous acid esters, and ethyl and isopropyl ethyl phosphonic acid esters. The addition of these

Card 1/5

25367

S/079/61/031/008/005/009

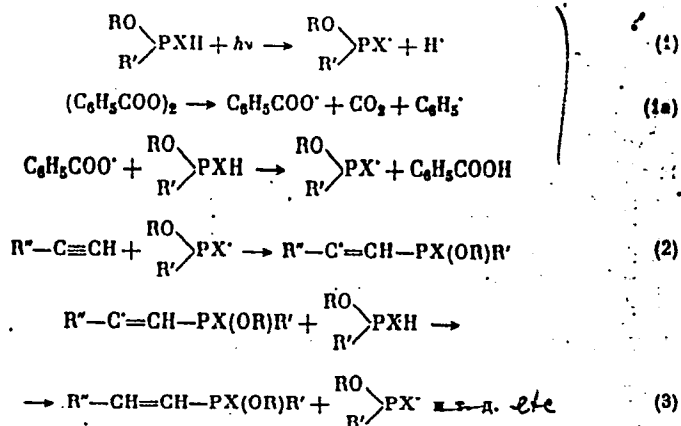
D215/D304

A new synthesis method ...

esters to heptyne-1 and octyne-1 was carried out by irradiating the reaction mixture with ultra-violet light or in presence of benzoylperoxide. The chain reaction is illustrated by the following reactions.

(1), (1a), (2) and (3) correspond to initiation chain-growing and the formation of the addition product; N(4) - formation of the polymerization product. In both synthesis reactions (irradiation or benzoylperoxide), the same products - esters of alkenyl phosphoric or alkenylthiophosphonic acids were obtained,

Card 2/5



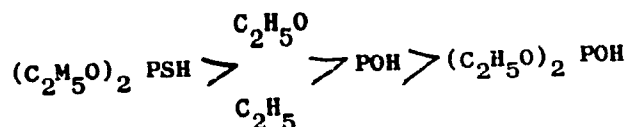
25367

S/079/61/031/008/005/009  
D215/D304

A new synthesis method...

[Abstractor's note: British nomenclature of phosphorus organic compounds is used: "onic" for quinquivalent and "inic" for tervalent P] with a yield of 25-50%, the esters being mobile, colorless liquids, sparingly soluble in water, highly soluble in organic solvents. Their characteristics are given in tabulated form. The structure of addition products was proved by the oxidation of the diethyl ester of hephenylthiophosphonic acid with  $\text{KMnO}_4$ , when n - caproic acid was obtained.

The authors investigated the addition reaction velocity of heptyne-1 to acidic ethylesters of phosphorous, thiophosphorous and ethylphosphinic acids; they found that the velocity of reaction decreased in the following series:



The obtained results prove that the investigated reactions take place through free radicals chain mechanism and against Markownikoff's rule

Card 3/5

25367

S/079/61/031/008/005/009  
D215/D304

A new synthesis method...

[Abstractor's note: His name is written thus in technical literature]. The velocity of addition reactions of the above-mentioned esters with heptane-1, heptyne-1 and phenylacetylene decreases as follows: heptane-1 heptyne-1 phenyl-acetylene. The velocity of reactions are given graphically. It is seen that the velocity of reaction with benzoylperoxide is quite similar to that which is carried out by irradiation and that the addition reaction with phenylacetylene is much slower than others. The yield of the last reaction was very low, due to the resinification of reagents. The obtained product: diethylester of  $\beta$ -phenylvinylthiophosphonic acid was described by previous investigators, but its constants given by them differ from those found by the authors; the previously published constants were erroneous because MR based on the given data is markedly different from the calculated one. The authors carried out the synthesis of di-phosphonic derivatives by adding di-ethylphosphorous and di-ethylthiophosphorous acids to the diethylester of heptenylthiophosphonic acid, in the presence of sodium ethoxide, the reaction being an ionic one. The reaction products are thick, colorless liquids,

Card 4/5

PUDOVIK, A.N.; KONOVALOVA, I.V.; ISHMAYEVA, E.A.

New method of synthesizing phosphinic and thiophosphinic acid esters.  
Part 37: Addition of nucleophilic reagents to butadiene- and  
methylbutadienephosphinic esters. Zhur. ob. khim. 32 no.1:237-241  
Ja '62; (MIRA 15:2)

1. Kazanskiy gosudarstvennyy universitet.  
(Phosphinic acid)

PUDOVIK, A.N.; KONOVALOVA, I.V.; DUROVA, O.S.

New method of synthesizing esters of phosphinic and thiophosphinic acids. Part 38: Synthesis of esters of unsaturated phosphinic and thiophosphinic acids. Zhur.ob.khim. 31 no.8:2656-2661 Ag '61. (MIRA 14:8)

1. Kazanskiy gosudarstvennyy universitet.  
(Phosphinic acid) (Phosphinothioic acid)

PUDOVIK, A.N.; KONOVALOVA, I.V.

Reactions of vinyl acetate with partial esters of phosphorus  
acids. Zhur.ob.khim. 32 no.2:467-471 F '62. (MIRA 15:2)  
(Vinyl acetate)  
(Phosphorus acids)

PUDOVIK, A.N.; KONOVALOVA, I.V.

Regrouping of methyl-di-(diethylphosphone)-carbinol. Dokl.  
AN SSSR 143 no.4:875-878 Ap '62. (MIRA 15:3)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-  
Lenina. Predstavleno akademikom B.A.Arbuzovym.  
(Phosphinic acid) (Phosphorus acids)

PUDOVIK, A. N.; KONOVALOVA, I. V.

Interaction of carboxyl chloride and carboxylic anhydrides  
with sodium diethyl phosphite. Zhur. ob. khim. 33 no.1:  
98-102 '63. (MIRA 16:1)

1. Kazanskiy gosudarstvennyy universitet.

(Acids, Organic) (Phosphorous acid)

PUDOVIK, A.N.; KONOVALOVA, I.V.; DEDOVA, L.V.

Rearrangement of esters of hydroxymethyl (diethylphosphone)  
acetic acid. Zhur.ob.khim. 32 no.2:483-486 F '63. (MIRA 16:2)

1. Kazanskiy gosudarstvennyy universitet.  
(Acetic acid) (Rearrangements (Chemistry))

PUDOVIK, A.N.; KONOVALOVA, I.V.

Synthesis of styrene and its homologs by pyrolysis of phosphates.  
Dokl. AN SSSR 149 no.5:1091-1094 Ap '63. (MIRA 16:5)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina.  
Predstavleno akademikom B.A.Arbusovym.  
(Styrene) (Phosphates)

PUDOVIK, A.N.; KONOVALOVA, I.V.; ISHMAYEVA, E.A.

Reactions of the diene synthesis and addition of butadienephosphinic  
and butadienethiophosphinic esters. Zhur. ob. khim. 33 no.8:  
2509-2513 Ag '63. (MIRA 16:11)

1. Kazanskiy gosudarstvennyy universitet.

PUDOVIK, A.N.; KONOVALOVA, I.V.

Transformations of allylphosphinic esters in the presence of  
sodium ethylate. Zhur.ob.khim. 33 no.10:3442-3443 0 '63.  
(MIRA 16:11)

1. Kazanskiy gosudarstvennyy universitet.

PUDOVIK, A.N.; KONOVALOVA, I.V.; DEDOVA, L.V.

Rearrangement of  $\alpha$ -oxyphosphinic and  $\alpha$ -oxythiophosphinic esters to phosphinates and thiophosphates. Dokl. AN SSSR 153 no.3:616-618 N '63. (MIRA 17:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina. Predstavleno akademikom B.A. Arbuzovym.

L 18279-65 EWT(m)/EPF(c)/ENP(j) Pc-4/Pr-4 RM

ACCESSION NR: AF5002985

S/0079/64/034/009/2902/2905

AUTHOR: Pudovik, A. N.; Konovalova, I. V.; Dedova, L. V.

TITLE: Reaction of dialkylthiophosphorus acids with certain carbonyl-containing compounds

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 2902-2905

TOPIC TAGS: organic phosphorus compound, ester, acetic acid

Abstract: Reactions of dialkylthiophosphorous acids with carbonyl compounds were studied as a comparison with previous studies of the reactions of dialkylphosphorous acids with acetophosphinic and pyruvic esters and acetophenone in the presence of an alkaline catalyst, which were accompanied by rearrangement of the alpha-hydroxyalkylphosphinic esters formed in the first step to phosphates; this study was aimed at determining the influence of replacement of the phosphinic group by the less electronegative thiophosphinic group on these reactions. The esters of alpha-hydroxy-alpha-methyl (dialkylthiophosphone) acetic, alpha-hydroxy(alpha-diethylthiophosphone) phosphinic, and alpha-hydroxy-alpha-acetoethylthiophosphinic acids formed in the addition of dialkylthiophosphorous acids to the ethyl ester of pyruvic acid, acetophosphinic ester, and diacetyl in the presence of sodium alcoholate.

Card 1/2

L 18279-65

ACCESSION NR: AP5002985

are rearranged during the reaction to dialkyl(alpha-carbethoxyethyl) thiosphosphates, diethyl(alpha-diethylthiophosphone)ethyl phosphate, and diethyl-alpha-acetoethyl thiophosphate. In the reaction of diethylthiophosphorous acid with acetophenone, the diethyl ester of alpha-hydroxy-alpha-phenylethylphosphinic acid was formed in only a small yield, most of it decomposing to the starting materials upon distillation. It was concluded that replacement of the phosphinic group by the thiophosphinic group, exhibiting a smaller induction effect as a result of the lower electronegativity of sulfur in comparison with oxygen, exerts a substantial influence on the ability of alpha-hydroxythiophosphinic esters for rearrangement. Orig. art. has 7 formulas and 1 table.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: 01Jul63

ENCL: 00

SUB CODE: CC, GC

NO REF SOV: 005

OTHER: 000

JPRS

Card 2/2

PUDOVIK, A.N.; KONOVALOVA, I.V.; DEDOVA, L.V.

Reactions of dialkylphosphothious acids with some carbonyl-containing compounds. Zhur. ob. khim. 3/4 no.9:2902-2905 S '64.

Interaction of phosphinic acid ethers with pyruvic ester and acetophenone. Ibid.:2905-2907 (MIRA 17:11)

1. Kazanskiy gosudarstvennyy universitet.

L 18277-65 EWT(m)/EPF(c)/EWP(f) Pc-l/Pr-l/Pa-l RM

ACCESSION NR: AP5002986

S/0079/64/034/009/2905/2907

AUTHOR: Pudovik, A. N.; Konovalova, I. V.; Dedova, L. V.

TITLE: Reaction of incomplete esters of phosphinous acids with pyruvic ester and acetophenone <sup>B</sup>

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 2905-2907

TOPIC TAGS: ester, phosphinic acid, pyrolysis, polystyrene

Abstract: The addition of incomplete esters of ethylphosphinous acid to the ethyl ester of pyruvic acid and acetophenone in the presence of sodium alcoholate was studied. The alkyl esters of ethyl-alpha-hydroxy-alpha-carbethoxyethylphosphinic and (alpha-hydroxy-alpha-phenylethyl) ethylphosphinic acids formed were found to be rearranged during the reaction to alpha-carbethoxyethylalkyl and alpha-phenylethylalkyl esters of ethylphosphinic acid. Pyrolysis of the (alpha-phenylethyl)ethyl ester of ethylphosphinous acid at 170° at a residual pressure of 25 mm resulted in the formation of styrene in 76% yield. Orig. art. has 7 formulas and 1 table.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: 01Jul63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 002

OTHER: 000

JPRS

Card 1/1

L 38290-66 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

17841 17842

17843 17844

Novik, A. N.; Kononova, I. V.

Reaction of trialkyl phosphites with esters of malonic and mesoxalic

Chem. Zhurn. Khim., v. 24, no. 11, 1964, 2184-2185

Organic phosphorus compound, ester, thermochemistry

Reaction of trialkyl phosphites with esters of malonic and mesoxalic acids was found to proceed in two directions at 100-120°C. In the first direction, one or two molecules of the ester react with the phosphite to form dialkyl- $\alpha$ -alkoxyethyl phosphates and trialkyl- $\alpha$ -alkoxy-1,2,3-dioxaphosphorane, respectively.

In the second direction, the trialkyl phosphites reacted with the esters to form 1,3,2-dioxaphosphorane and trialkyl- $\alpha$ -alkoxy-1,2,3-dioxaphosphorane, respectively.

The trialkyl phosphites were found to react with the esters to form dialkyl- $\alpha$ -alkoxy-1,2,3-dioxaphosphorane.

The formation of cyclic compounds of the dioxaphosphorane type was observed in the reaction of trialkyl phosphites with the esters.

The orig. art. has 2 formulas.

PUDOVIK, A.N.; KONOVALOVA, I.V.; BANDEROVA, L.V.

Reaction of phosphorus ester acids with ethyl mesoxalate.  
Zhur. ob. khim. 35 no.7:1206-1209 J1 '65. (MIRA 18:8)

1. Kazanskiy gosudarstvennyy universitet.

PUDOVIK, A.N.; KONVALOVA, I.V.

Reactions of esters of trivalent phosphorus acids with esters  
of pyruvic acid. Zhur. ob. khim. 35 no.9:1591-1595 S '65.  
(MIRA 18:10)

1. Kazanskiy gosudarstvennyy universitet.

L 25597-66 EWT(m)/EWP(j) EM

ACC NR: AP6016693

SOURCE CODE: UR/0079/65/035/009/1591/1595

AUTHOR: Pudovik, A. N.; Konovalova, I. V.

ORG: Kazan' State University (Kazanskij gosudarstvennyy universitet)

TITLE: Reactions of complete esters of acids of trivalent phosphorus with esters of pyruvic acid

SOURCE: Zhurnal obshchey khimii, v. 35, no. 9, 1965, 1591-1595

TOPIC TAGS: ester, phosphate, organic phosphorus compound

ABSTRACT: The reactions of the methyl and ethyl esters of pyruvic acid with trimethyl and triethyl phosphites were found to depend greatly on the reaction conditions. Under mild conditions (-10 to 0°), high-boiling products (2,2,2-trialkoxy-4,5-dimethyl-4,5-dicarbalkoxy-1,3,2-dioxaphospholanes) were formed in 70-80% yield, along with only very negligible amounts of low-boiling compounds. Under more rigorous conditions, at 100°, the reaction of trialkyl phosphites with pyruvic esters was found to proceed in two directions -- forming up to 30% low-boiling products (dialkyl-alpha-alkyl-alpha-carbalkoxy-ethyl phosphates) and only 40% of the 1,3,2-dioxaphospholanes. A reaction mechanism is proposed, involving attack of phosphite on the electrophilic carbon atom of the carbonyl group of pyruvic ester, with intramolecular rearrangement of the bipolar ion, followed by stabilization of the ion formed in two ways. 2,2-Diethoxy-2-ethyl-4,5-dimethyl-4,5-dicarbalkoxy-1,3,2-dioxaphospholane

Card 1/2

UDC: 547.26.118

L 25597-66

ACC NR: AP6016693

phospholanes were produced by the reaction of the diethyl ester of ethyl-phosphinous acid with the methyl and ethyl esters of pyruvic acid under mild conditions. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 11Jan64 / ORIG REF: 001 / OTH REF: 001

Card 2/2 *h*

KONOVALOVA, I.Z.

Computation of perpetual current tables. Trudy GOIN no.61:133-  
141 '61. (MIRA 14:10)  
(Tides--Tables)

BURYKH, Ye.B.; KOLOBOV, V.M.; SKOTNIKOV, Yu.A.; TIKHONOVICH, S.S.;  
SHEPOVALOV, T.I.; KONOVALOVA, K.A., redaktor; RODIONOV, Yu.,  
redaktor; LIL'YE, A., ~~tekhnicheskii~~ redaktor

[Memorable places in Moscow Province] Pamiatnye mesta Moskovskoi  
oblasti; kratkii putevoditel'. Izd. 2-e, dop. i perer. Sost. E.B.  
Burykh i dr. [Moskva] Moskovskii rabochii, 1956. 606 p. (MLBA 9:7)

1. Moscow. Oblastnoy krayevedcheskiy musey. 2. Zamestitel' pred-  
sedatelya Moskovskogo oblastnogo obshchestva krayevedeniya (for  
Konovalova)

(Moscow Province--Historic houses, etc.)

BURYKH, Ye.B.; D'YAKONOV, M.V.; KOLOBOVA, M.I. [deceased]; KOLOBOV, V.M.;  
KONOVALOVA, K.A.; POPADNYKIN, V.I.; SKOTNIKOV, Yu.A.; TIKHONOVICH,  
S.S.; SHEPOVALOV, T.I. Primalni uchastiye YUN'YEVA, N.P.;  
POLYAK, Ye.V.; SULTANOVA, N., red.; YAKOVLEVA, Ye., tekhn.red.

[Memorable places in Moscow Province; a concise guidebook] Pa-  
miatnye mesta Moskovskoi oblasti; kratkii putevoditel'. Izd.3.,  
dop. i perer. Sost.E.B.Burykh i dr. Moskva, Mosk.rabochii, 1960.  
734 p. (MIRA 14:2)

1. Moscow. Oblastnoy krayevedcheskiy muzey. 2. Zamestitel' predse-  
datelya Moskovskogo oblastnogo obshchestva krayevedeniya (for  
Konovalova).

(Moscow Province---Guidebooks)

MELKAYA, Ye.N.; KONOVALOVA, K.I.; GORDON, L.V.; SKVORTSOV, S.O.

Means for increasing production of furfurole oils in wood chemistry plants. *Gidroliz. i lesokhim.prom.* 11 no.8:20-21 ' 58.

(MIRA 11:12)

1. Syavskiy lesokhimicheskiy kombinat (for Malkaya, Konovalova).
  2. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Gordon, Skvortsov).
- (Furaldehyde)

AUTHOR: SHOMEROV, D.P., KONOVALOVA, K.M. 32-6-8/54  
 TITLE: On the Colorimetric Determination of the Content of Mercury in Mercury- and Copper Diiodide. (O kolorimetricheskom opredelenii rtuti v vide dvoynogo iodida rtuti i medi, Russian)  
 PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 663-665 (U.S.S.R.)  
 ABSTRACT: It is shown in this paper that on the occasion of the examination of the colorimetric method for the determination of the mercury content (according to D.N. FINKELSTEIN and Mme. PYETROPAVLOVSKAYA) results were obtained that were lower than those obtained by titration with rodanide or by the distillation method (according to F.A. FIER'YANCHICH). The copper iodide suspension used on this occasion was not dense enough, and discolored mercury silver diiodide and copper were precipitated too rapidly, so that comparison of the colorings of the solutions was rendered difficult. According to the method mentioned the iodide concentrations in the samples ought to have agreed with those in the standard scale, but in reality this was not the case. Two scales were worked out on the basis of the results obtained: A - with 0.2% J with a 2.0 KJ solution, and B - with an addition of 1 ml. 1% - iodine solution, i.e. with a final concentration of 0.36% J. The solutions of scale B were then colorimetrized according to the scale A, and solutions of scale A were

Card 1/2

GUREVICH, E.I., inzh.; KONOVALOVA, K.N., inzh.; MYSHENKOVA, N.K., inzh.;  
SENUHGOV, K.I., inzh.; SIMO, I.N., inzh.

Study of the TVF-100-2 trubogenerators manufactured by the  
"Elektrosila" factory. Elek. sta. 35 no.12:25-28 D '64.  
(MIRA 18:2)

KONOVALOVA, L. A.

Chemical Abst.  
Vol. 43 No. 6  
Mar. 25, 1954  
General and Physical Chemistry

(4)  
Temperature relationship of the density of heptamethyl-  
nonane and methylcyclopentylcyclohexane. G. D. Gal-  
perin, L. A. Konvalova, and M. M. Kusafov. *Trudy*  
*Inst. Khim. Akad. Nauk S.S.R.* 1, No. 2, 217-22 (1950).  
An accurate method of detn. of the d. of liquid hydrocarbons  
with dilatometric pycnometers. Ds. of heptane, butyl-  
benzene, heptamethylnonane, and methylcyclopentyl-  
cyclohexane were found to change linearly between  $-60^{\circ}$   
and  $+20^{\circ}$ . Empirical equations were developed to express  
changes in ds. with the temp. W. M. Sterberg

9-16-54/p  
8/2/54

Chemical Abstracts

Vol. 48 No. 5

Mar. 10, 1954

General and Physical Chemistry

Temperature relations of index of refraction and diffraction of liquid hydrocarbons at low temperatures. (G. I.) Gal'pern, L. A. Konovalova, and M. M. Kusakov. *Trudy Inst. Nefti Akad. Nauk S.S.S.R.* 1, No. 2, 223-43 (1950).—Obreimov's method (C.A. 39, 1585<sup>9</sup>) was used, based on the diffraction max. and min. at the boundary of a liquid/glass plate, resulting from the interference of 2 branches of a monochromatic light ray, one of which passes through the liquid, and the other through the plate. The  $n$ s and diffraction of heptamethylonane, methylcyclopentylcyclohexane, and butylbenzene changed linearly between +20 and -60°. With a sufficiently high-grade monochromator permitting the isolation of a 2-A. spectrum range, and a sufficiently great range of standard glasses, changes in the  $n$  can be detd. with a high degree of accuracy in the app. used; the accuracy of the measurements was within  $\pm 0.0001$ . The sp. refraction calcd. by the Lorentz-Lorenz formula is a function of the temp., and is lower at lower temps.

W. M. Sternberg

*[Handwritten signature]*

Pressure effects on the viscosity and the structure of  
lubricants with additives. M. M. Kuznetsov,  
L. A. Kabanova. Doklady Akad. Nauk SSSR, 1977, No. 1, p. 115.

polyfunctional additives to lubricating oils. The results and their structure formation are described in the pressure viscometer Zelotekhi. *Teoriya i Eksperiment* (1978), No. 10, 1685-1690. *Teoriya i Eksperiment* (1978), No. 10, 1685-1690. The authors show that the addition of a small amount of a polyfunctional additive to a lubricating oil (0.1 kg/kg oil) leads to a significant increase in the oil's viscosity (up to 100%) at pressures of 0.1-0.5 kg/cm<sup>2</sup>. The pressure-viscosity coefficient  $\alpha$  increases by a factor of 1.5-2.0. The authors also show that the addition of a small amount of a polyfunctional additive to a lubricating oil (0.1 kg/kg oil) leads to a significant increase in the oil's viscosity (up to 100%) at pressures of 0.1-0.5 kg/cm<sup>2</sup>. The pressure-viscosity coefficient  $\alpha$  increases by a factor of 1.5-2.0. The authors also show that the addition of a small amount of a polyfunctional additive to a lubricating oil (0.1 kg/kg oil) leads to a significant increase in the oil's viscosity (up to 100%) at pressures of 0.1-0.5 kg/cm<sup>2</sup>. The pressure-viscosity coefficient  $\alpha$  increases by a factor of 1.5-2.0.

KONOVALOVA, L. A.

AUTHOR: Kusakov, M.M., Konovalova L.A. and Avdeyeva, V.I. 65-4-6/12  
TITLE: The influence of pressure on the viscosity of solutions of some silicon-organic liquids in a mineral oil. (Vliyaniye davleniya na vyazkost' rastvorov nekotorykh kremniyorganiki v zhidkostey v mineral'nom masle.)

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and Technology of Fuels and Lubricants) 1957, No. 4, pp. 38-41 (USSR)

ABSTRACT: The dependence of the viscosity of some solutions of polysiloxanes in a mineral oil on pressure at various temperatures was investigated. The viscosity measurements at pressures up to 3 000 kg/cm<sup>2</sup> and temperatures from 10 to 50 °C were carried out in a high pressure viscosimeter based on the principle of falling sphere (14,6). The dependence of the relative viscosity of oil AY, ethylpolysiloxane liquid and their mixtures on pressure is shown in Fig. 1., isobars of the concentration - relative viscosity relationship, in Figs. 2-4. The influence of some individual liquids with siloxane links (bis-pentaalkyl-disilanemethaneoxides with various radicals, from CH<sub>3</sub> to C<sub>4</sub>H<sub>9</sub>) on the viscosity of oil AY under the same pressures and temperatures was studied in some detail. Comparatively small concentrations (up to 0.5 mol/l 000) of the above compounds dissolved in AY oil decrease the relative

Card 1/2

KONOVALOVA, L. A.

5(5): 11(6) PAGE 1 BOOK EXPLANATION OCT/2021

Academy of Sciences, Institute of

Trudy, 1. 18 (Transactions of the Petroleum Institute, USSR, Academy of Sciences, Vol. 18) Moscow, Izd-vo AN SSSR, 1956. 395 p. Printed and inserted. 1,700 copies printed.

Ed.: S. B. Bergin, Professor, Ed. of Publishing House: K. G.

Myasov, V. V. Editor.

REMARKS: The book is intended for scientists, engineers, and technicians in the petroleum industry.

CONTENTS: This collection of articles describes the results of studies on the chemistry and technology of petroleum and gas conducted in the laboratories of the Petroleum Institute, Academy of Sciences, USSR, in 1956 and 1957. A new section "Petrochemical Synthesis and Technology of Petroleum" has been included in the collection of articles. A list of investigations published by the associated institutes in 1956 and 1957 and a list of dissertations for the associated Doctor's and Candidate's degrees presented in 1956 and 1957 are given. Sessions of the Academic Council of the Petroleum Institute, Academy of Sciences, USSR, are given.

Ed.: I. A. Ivanova, P. V. Kozlov, I. A. Kozlov, and V. V. Shchekin. Changes in the Activity of Silica Gel in the Chromatographic Separation of Hydrocarbons

35

# V. ARTICLES ON VARIOUS PROBLEMS

IVASHIN, M. M., A. A. Konovalova, and V. V. Andryashin. Effect of Pressure on Viscosity and Rheology of Lubricating Oils 359

Kozlov, P. A., and S. A. Pokatilov. The Role of Nitrooxides in Self-Ignition of a Mixture of Dicyclopentadiene and Nitric Acid. Report I 35A

Kozlov, P. A., V. M. Andrianov. Some Problems in the Economics of Petroleum Refining 363

Tabirsky, E. E. (increased) 372

Presentations presented at sessions of the Academic Council of the Petroleum Institute, Academy of Sciences, USSR, in 1956 and 1957 375

Investigations on the chemistry and technology of petroleum and gas carried out at the Petroleum Institute, Academy of Sciences, USSR, and published in 1956-1957 376

Papers not included in the bibliography of Vol. I of "Trudy Instituta nefti" 391

AVAILABLE: Library of Congress

KONOVALOVA, L.A.

PHASE I BOOK EXPLOITATION SOW/5055

Vostochnaya konferentsiya po treniyu i iznosu v mashinakh. 3d. 1958.

Oldodnashcheskaya teoriya smazki. Opory skol'zheniya. Smazka i smazochnye materialy (Hydrodynamic Theory of Lubrication. Slip Bearings. Lubrication and Lubricant Materials) Moscow. Izd-vo AN SSSR. 422 p. Errata slip inserted. 3,800 copies printed. (Series: Its: Trudy, v. 3)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Eds. for the Section "Hydrodynamic Theory of Lubrication and Slip Bearings": Ye. M. Gut'yat, Professor, Doctor of Technical Sciences, and A. A. Prigod, Professor, Doctor of Technical Sciences; Resp. Ed. for the Section "Lubrication and Lubricant Materials": G. V. Vinogradov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: M. Ya. Klebanov; Tech. Ed.: O. M. Ost'kova.

RUMFUSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vostochnaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in hydrodynamic theory of lubrication and

SOW/5055

Podolskiy, Yu. Ya. Machine for Testing Wear-Resistant and Antifriction Properties of Lubricant Materials for High Contact Stresses and Sliding Speeds 227

Janin, P. I., Ye. S. Shepeleva, A. V. Ul'yanova, and M. V. Kleymanov. Effect of Synthetic Additives to Lubricating Oils on Frictional Wear 234

Tsurkan, I. G. Application of the Results of Wear-Resistance Tests of Lubricating Oils on Machines With Point Contact of the Friction Surfaces 239

#### Volumetric Mechanical Properties of Lubricant Materials

Velikovskiy, D. S. (deceased), P. I. Kashdan, and G. D. Mendantavskiy. Viscous Properties of Oil Mixtures of Different Chemical Character and of Solid Lubricants Obtained by Thickening 248

Volynskiy, M. P., and V. L. Val'dman. Investigation of the Viscous Properties of Lubricating Oils with High-Polymer Additives at Low Temperatures 256

Kusakov, M. M., L. A. Konovalova, Ye. A. Prokof'yeva, and V. I. Sidorenko. Effect of Temperature, Pressure and Viscosity on the Viscosity of Mineral Oils and Silico-organic Liquids 262

Mashchinov, S. M. Practical Significance of Some Laboratory Parameters of the Mechanical Properties of Plastic Lubricants 270

Pavlov, V. P. Effects of Heat on the Flow of Plastic Lubricants 277

Slutskiy, V. V. Boundary-Layer Sliding and Internal Friction of Plastic Lubricants 284

CONFIDENTIAL

S/081/61/000/014/026/030  
B105/B202

AUTHORS: Kusakov M. M., Konovalova L. A., Prokof'yeva Ye. A.,  
Sidorenko V. I.

TITLE: Effect of temperature and pressure on the viscosity of  
mixtures of mineral oils and organosilicon liquids

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1961, 543,  
abstract 14M249 (Tr. 3-y Vses. konferentsii po treniyu  
i iznosu v mashinakh. M., AN SSSR, v. 3, 1960, 262 - 270)

TEXT: The authors present experimental data on the viscosity of the  
solutions of polysiloxane liquids (PL) in mineral oils at atmospheric  
pressure and in the temperature interval of  $-50$  to  $+60^{\circ}\text{C}$  as well as at  
pressures of up to  $3000\text{ kg/cm}^2$  in the temperature interval of from  $+10$  to  
 $+50^{\circ}\text{C}$ . The viscosity measurements (dynamic) at atmospheric pressure and  
at different temperatures were made by means of the capillary viscosimeter  
of the type Ubbelohde and at high pressures by means of the falling-sphere  
viscosimeter. The components of the mixture were mineral oils MVP and the  
spindle oil AU as well as ethyl- and butyl polysiloxane liquids. The  
Card 1/3

S/081/61/000/014/026/030  
B105/B202

Effect of temperature and pressure ...


authors give temperature curves of the viscosity of the oils MVP, AU and of three PL. An addition of PL to the oils MVP and AU improves the temperature curve of their viscosity by increasing its slope in the field of low temperatures. With simultaneous addition of PL and high-molecular thickeners to the oil, the effect of PL mainly causes an increase of the temperature slope of the viscosity temperature curve; the effect of the thickener leads to an increase of the viscosity level. The effect of PL and the thickener becomes manifest independently. For all temperatures investigated the effect of PL is the stronger the higher the pressure. The results of the study of the piezometric dependence of the viscosity of the mixture of mineral oil and PL showed that the viscosity of the mixtures at given pressure is no additive property. The deviation of the viscosity isobars from the linearity increases with increasing pressure and with increasing difference in the piezometric coefficients of viscosity of the oil and PL. With increasing pressure and at a certain ratio of the components, the viscosity isobars of the mixtures show a certain minimum. With addition of various commercial PL to the oils, the

Card 2/3

S/081/61/000/014/026/030  
B105/B202

Effect of temperature and pressure ...

character of the change of the relative viscosity depends on pressure and temperature. In this case relative viscosity decreases with increasing PL content in the mixture. With increasing concentration of PL in the mineral oil the piezocoefficient of viscosity decreases. [Abstracter's note: Complete translation.]



Card 3/3

KONOVALOVA, L.A., inzh.

Discharge delay in a regulated arc gap with a gas generating igniting device. Izv. vys. ucheb. zav.; energ. 6 no.8:110-114 Ag '53.  
(MIRA 16:9)

1. Ural'skiy politechnicheskiy institut imeni Kirova.  
(Electric switchgear—Testing)  
(Electric discharges)

ACCESSION NR: AR4036338

S/0169/64/000/003/B072/B072

SOURCE: Referativnyy zhurnal. Geofizika, Abs. 3B465

AUTHOR: Isherskaya, Ye. V.; Konovalova, L. A.

TITLE: Microclimate of a river valley of the Volga slope of the Volga Highlands

CITED SOURCE: Sb. Materialy 1-go Nauchno-tekhn. soveshchaniya po izuch. Kuyby'shevsk. vodokhranilishcha. Vy'p. 2. Kuyby'shev, 1963, 71-80

TOPIC TAGS: climate, microclimate, microclimate survey, atmospheric surface layer, atmospheric temperature gradient, atmospheric temperature, atmospheric humidity

TRANSLATION: A microclimatic survey was made using an automobile which carried an automatic meteorograph which recorded air temperature and humidity in the surface layer. The study discusses the microclimatic indices of the following relief features: a) the lower surface of the Volga Highlands on drainage divides; b) plateau slopes of different degree of dissection and exposure descending to the valleys; c) the Khazar'skaya terrace of the valleys; d) the Khvalyn'skaya

Card 1/3

ACCESSION NR: AR4036338

terrace; and e) the recent floodplain terrace. At nighttime, in the predawn hours, the air temperature distribution in the surface layer conforms to the topographic profile. The valleys are 2-3° colder than the plateau. Within a valley there is smoothing of the microclimatic differences. The vertical temperature gradient in the layer of the first 50 meters from the surface of the soil is close to zero. On valley slopes temperature increases with height; the vertical temperature gradient is -5 - -6°/100 m. On the plateau temperature variations do not exceed 1°. The distribution of relative humidity conforms to the topographic profile, but has an opposite sign in comparison to the temperature distribution. In the valleys the relative humidity is 20% (sometimes 50%) higher than on the plateau. In the evening the cooling of valleys and the formation of inversions in the valleys begins immediately after sunset; in the first hours of the night the terraces above the floodplains are warmer than the floodplains. The frosts on the terraces above the floodplains are of shorter duration than on the floodplains. In the evening hours, even before the onset of a temperature change, there is a sharp increase of humidity in topographic depressions. This can be

Card 2/3

ACCESSION NR: AR4036338

attributed to the fact that moisture exchange is difficult when an inversion is forming over the floodplain. During the daytime hours the distribution of temperature and humidity is uniform and has little dependence on the form of relief. There is no temperature increase in topographic depressions, which can be attributed to a considerable vertical heat exchange. In the absence of a daytime increase of temperatures and with considerable nighttime cooling in the valleys the sums of active temperatures in the growing season are greater than on open plateaus. M. Garadzha.

DATE ACQ: 17Apr64

SUB CODE: AS

ENCL: 00

Card 3/3

KUSAKOV, M.M.; KONOVALOVA, L.A.; KONSTANTINOV, A.A.

High-pressure rotary viscosimeter for small amounts of liquid.  
Inzh.-fiz. zhur. 7 no. 3:27-33 Mr '64. (MIRA 17:5)

1. Institut neftekhimicheskogo sinteza AN SSSR, Moskva.

KONOVALOVA, L. F.

KONOVALOVA, L. F. -- "Biological Characteristics of Perch as a Component of Lake Ichthyofauna." Sub 7 Jan 53, Moscow Technical Inst of the Fish Industry and Economy imeni A. I. Mikoyan. (Dissertation for the Degree of Candidate in Biological Sciences).

SO: Verkhernaya Moskva January-December 1952

**KONOVALOVA, L.F.**

Characteristics of the biology of propagation of perch. Trudy Biol.  
sta. "Borok" no.2:266-277 '55. (MLRA 9:6)  
(Perch)

KONOVALOVA, L.I.

Some results of the adoption of the new technology in fabric finishing. Izv. vys.ucheb.zav.; tekhn.tekst.prom. no.6:140-141 '61.  
(MIRA 15:1)

1. Ivanovskiy khlopchatobumazhnyy kombinat.  
(Cotton finishing)

PROROKOV, N.I.; KONOVALOVA, L.I.; KUDRYASHOVA, A.A.

Experience in the use of the new methods for fabric finishing.  
(MIRA 17:9)  
Tekst. prom. 24 no.3:58-61 Mr '64.

1. Direktor Ivanovskogo khlopchatobumazhnogo kombinata imeni F.N. Samoylova (for Prorokov). 2. Zaveduyushchiy khimicheskoy laboratoriyey Ivanovskogo khlopchatobumazhnogo kombinata (for Konovalova). 3. Nachal'nik opytno-proizvodstvennoy laboratorii Ivanovskogo khlopchatobumazhnogo kombinata (for Kudryashova).

NOVIKOV, A.G.; KONOVALOVA, L.I.; FADEYEVA, T.M.

Continuous dyeing with insoluble azo dyes with partial drying  
of the fabric after "azotolation." Tekst.prom. 25 no.11:69-  
70 N '65. (MIRA 18:12)

1. Glavnyy inzhener Ivanovskogo khlopchatobumazhnogo kombinata  
imeni Samoylova (for Novikov). 2. Zaveduyushchiy khimicheskoy  
laboratoriyey Ivanovskogo khlopchatobumazhnogo kombinata imeni  
Samoylova (for Konovalova). 3. Starshiy inzhener-khimik Ivanov-  
skogo khlopchatobumazhnogo kombinata imeni Samoylova (for Fadeyeva).

5.3610

77394  
SOV/79-30-1-55/78

AUTHORS: Konovalova, L. L. Ust'-Kachkintsev, V. F.

TITLE: Concerning the Reaction Between Thiocyanate Esters and Amines

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 246-250 (USSR)

ABSTRACT: Reaction between ethyl thiocyanate and aniline, piperidine, and dimethylaniline was studied by measuring the densities, viscosities, and electrical conductivities of the mixtures of ethyl thiocyanate with amines. The results of the measurements are given in Figs. 1, 2, 3, 4, 5, and 6.

Card 1/5

Concerning the Reaction Between Thiocyanate Esters and Amines

77394

SOV/79-30-1-55/78

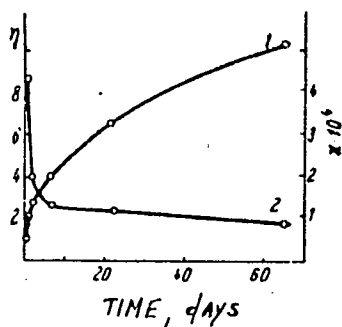


Fig. 1. Change in viscosity (1) and electrical conductivity (2) of a 50% mixture of ethyl thiocyanate with piperidine with time, at 25°.

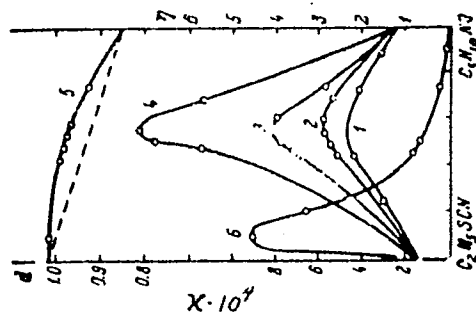


Fig. 2. System ethyl thiocyanate--piperidine, at 25°. (1-4) Viscosity after 1, 2, 7, 20 days; (5) density after 1 day; (6) electrical conductivity after 1 day.

Card 2/5

Concerning the Reaction Between Thiocyanate Esters and Amines

77394

SOV/79-30-1-55/18

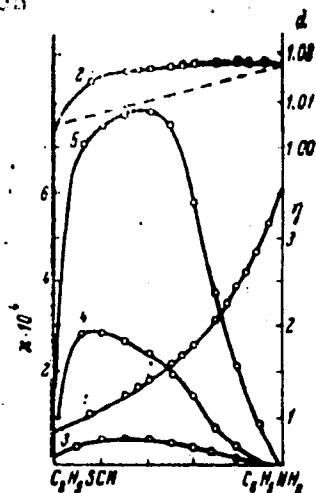


Fig. 3. System ethyl thiocyanate--aniline, at 25°. (1) Viscosity after 1 day; (2) density after 1 day; (3-5) electrical conductivity after 1, 15, 140 days.

Card 3/5

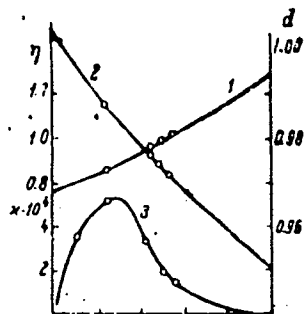


Fig. 4. System ethyl thiocyanate--dimethylaniline, at 25°. (1) Viscosity; (2) density; (3) electrical conductivity after 8 months.

Concerning the Reaction Between Thiocyanate Esters and Amines

77394

SOV/79-30-1-55/78

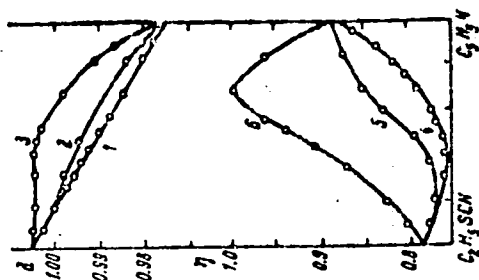


Fig. 5. System ethyl thiocyanate--pyridine, at  $25^\circ$ . (1-3) Densities after 1 day, 2 months, 1.5 years; (4-6) viscosity after 1 day, 2 months, 1.5 years. Card 4/5

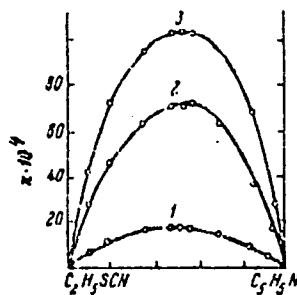


Fig. 6. Electrical conductivity of the mixture: ethyl thiocyanate--pyridine. (1,2) After 2 months and 1.5 years, at  $25^\circ$ ; after 1.5 years at  $50^\circ$ .

S/137/62/000/005/091/150  
A006/A101

AUTHOR: Konovalova, L. L.

TITLE: Changes in the mechanical properties of steel during its polarization in some non-aqueous solutions

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 53, abstract 5I310 ("Uch zap. Permsk. un-t", 1961, v. 19, no. 1, 51 - 54)

TEXT: The author studied changes in the rupture strength of a steel wire after cathodic polarization in water-alcohol, water-glycerin and water-dioxane solutions of 0.1 n.  $H_2SO_4$  and in mixtures of  $CH_3COOH$  with aniline. In polarization of steel in pure  $H_2SO_4$  solutions its rupture strength changes slightly, independent of the solvent composition. The introduction of a hydrogenization catalyst (Se dioxide) reduces the rupture strength of the steel. However, the effect of Se compounds is weaker than that of aqueous solutions. In mixtures of  $CH_3COOH$  with aniline, hydrogenization of the wire grows with increasing relative concentration of aniline.

T. Rumyantseva

[Abstracter's note: Complete translation]

Card 1/1

FROL'TSOVA, A.Ye.; ASTAF'YEV, B.A.; KONOVALOVA, I.M.

Search for specific trichinelliasis therapy. Report No.1:  
Acrichine, chlorophos, monomycin and a growth promoting  
substance of petroleum origin in experimental trichinelliasis  
of rats. Med. paras.i paraz.bol. 34 no.4:387-389. JI-Ag '65.  
(MIRA 18:12)

1. Klinicheskiy otdel i laboratoriya biologii gel'mintov  
i spetsificheskogo deystviya preparatov Instituta meditsinskoy  
parazitologii i tropicheskoy meditsiny imeni Ya.I.Martsinov-  
skogo Ministerstva zdravookhraneniya SSSR, Moskva. Submitted  
March 21, 1965.

KONOVALOVA, L.N.

TERENT'YEV, V.M.; STASENKO, N.N.; KONOVALOVA, L.N.

Some specific features of the growth and development of cereal plants  
on peat soils. Biol. Inst. Biol. AN BSSR no.2:94-99 '57. (MIRA 13:2)  
(Grain) (Peat soils)

KOZKO, A.I., inzh.; KONOVALOVA, L.N., inzh.

Results of investigating exchange samples of coal by the method of  
international classification. Obog.i brk.ugl. no.11:16-23 '59.  
(MIRA 13:6)

(Coal--Grading)

KOZKO, A.I., inzh.; KONOVALOVA, L.N., inzh.; Primali uchastiye: RYUKINA,  
A.A.; PONOMAREVA, L.A.; GIREVA, L.M.

Comparative evaluation of methods for determining the coking  
capacity of coals. Obog.i bri.k.ugl. no.14:47-76 '60.

(MIRA 14:5)

(Coal—Testing)

KOZKO, A.I., inzh.; KONOVALOVA, I.N., inzh.

Results of the testing of coal samples of the U.S.S.R. and of the  
countries of People's Democracies by means of the methods of  
international classification. Obog.i brik.ugl. no.15:58-  
61 '60. (MIRA 14:12)

(Coal..Testing)

TERENT'YEV, V.M.; KONOVALOVA, L.N.

Effect of the moisture regime of peat soils on the formation of  
substances composing the mechanical tissues of plants. Dokl. AN  
BSSR 5 no.11:511-514 N '61. (MIRA 15:1)

1. Predstavleno akademikom AN BSSR T.N.Godnevym.  
(Plants--Water requirements) (Lignin) (Cellulose)

KONOVALOVA, L. P.

KONOVALOVA, L. P.: "Alcoholization of the diaphragmal nerve in young and preschool children in primary and tubercular pneumonia." Acad Med Sci USSR. Moscow, 1956. (Dissertation for the Degree of Candidate in Medical Sciences.)

Source: Knizhnaya letopis' No 40 1956 Moscow

KONOVALOVA, L.P.; OKHRIMENKO, L.S.; STRUGAL'SKIY, Z.S.

Determining the energy of gamma-ray quanta in a xenon bubble chamber. Prib. i tekhn. eksp. 6 no.6:26-31 N-D '61.

(MIRA 14:11)

1. Ob"yedinennyy institut yadernykh issledovaniy. 2. Institut yadernykh issledovaniy, Varshava (for Strugal'skiy).

(Bubble chamber)

(Gamma rays)

KONOVALOVA, L. V.

Dissertation defended for the degree of Candidate of Philosophical Sciences  
at the Institute of Philosophy (1962)

"Category of Duty in Marxist-Leninist Epochs."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

KONOVALOVA, M.; ZVIYEDRIS, D. [Zviedris, D.]

Effect of hydrogen sulfide baths on the peripheral and cerebral  
blood circulation in hypotension. Vestis Latv ak no.3:97-104  
'62.

1. Institut eksperimental'noy i klinicheskoy meditsiny AN Latvyskoy  
SSR.

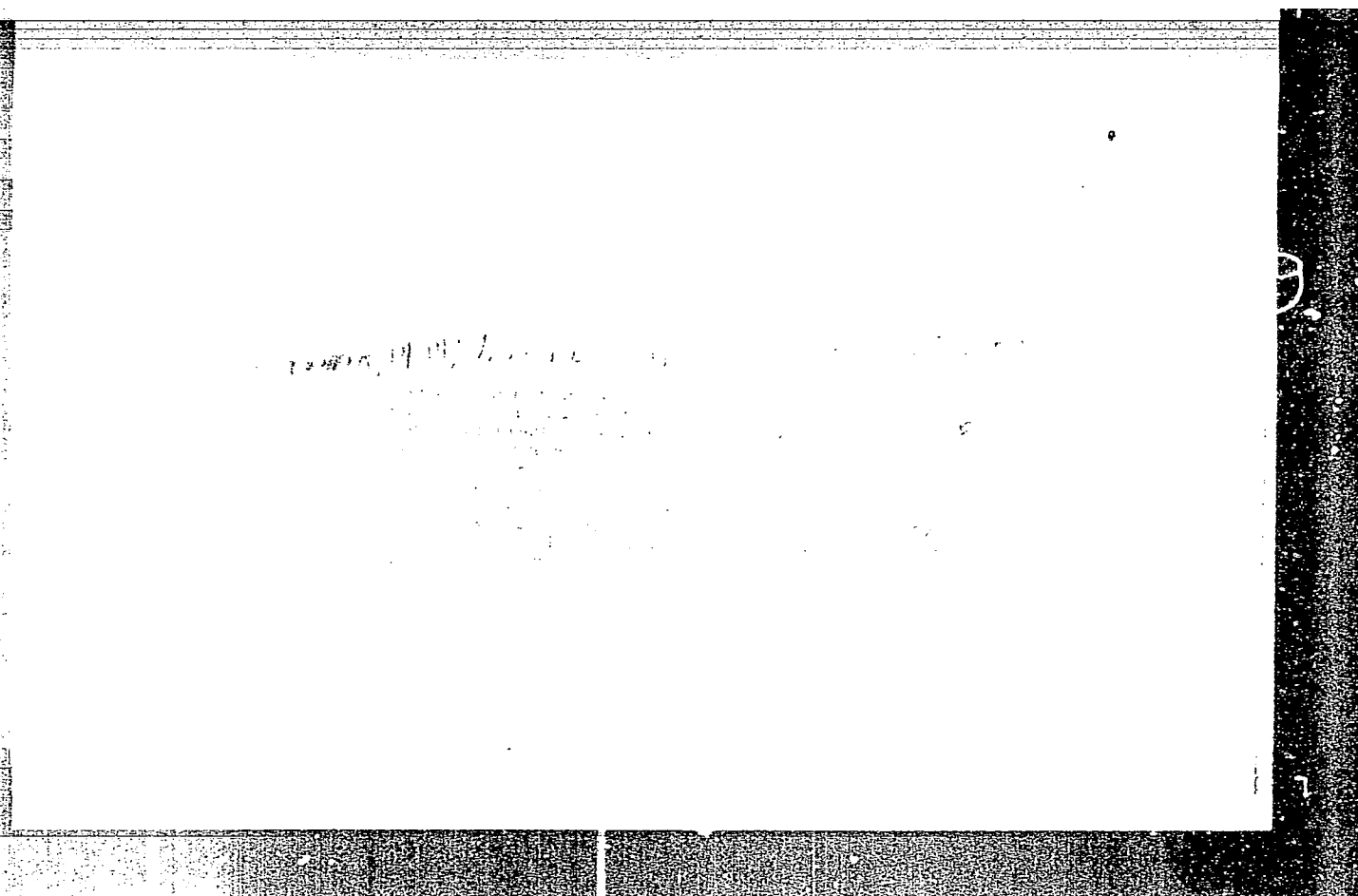
\*

RUDAKOV, A.G.; OGURTSOV, K.I.; ~~KONOVALOVA, M.A.~~

Dynamic characteristics of direct waves in finely stratified  
structures (shales). Vop.din.tsor.seism.voln. no.2:  
133-156 '59. (MIRA 13:5)

(Seismometry)

7  
 Properties of O-peptides of  $\beta$ -hydroxyamino acids. Reaction of ammonolysis and aminolysis. M. M. Borvinsk, S. M. Avayeva, M. I. Kononova, and V. I. Ostolovskaya (State Univ., Moscow). *Zh. Obshch. Khim.* 27, 1910-16 (1957); cf. C.A. 48, 8729c, 13628i; 51, 4948c. Benzoylserine (4.7 g.) in dry dioxane treated with the HCl salt of 2-phenyl-4-isopropylloxazolinone prep. from 4.8 g. benzoylvaline, stirred, kept overnight, and heated 8 hrs. at 50-55° EtOH). Similarly 2-phenylloxazolinone HCl salt gave 82.3% O-benzoylvalyl-N-benzoylserine, m. 184-5° (aq. Me<sub>2</sub>CO). Various O-peptides were treated with NH<sub>4</sub>OH of various concns. up to 25% and kept 1-24 hrs., yielding ppts. of amides of benzoylphenylalanine, benzoylvaline, and hippuric acid, the starting materials being O-benzoylphenylalanyl-N-benzoylserine, O-benzoylvalyl-N-benzoylserine, O-hippuryl-N-benzoylserine, O-benzoylphenylalanyl-N-benzoylthreonine, the amide of O-benzoylphenylalanyl-N-benzoylserine. O-benzoylphenylalanyl-N-benzoylthreonine, and the Et ester of benzoylphenylalanine (1), resp. The yields of the amides from the 1st two peptides listed above decline rapidly with reduction of the concn. of NH<sub>4</sub>OH, while the amide from the hippuryl deriv. is substantially independent of NH<sub>4</sub>OH concn. The ammonolysis of 1 was very slow under these conditions. Heating O-hippuryl-N-benzoylserine with 8-27 moles H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>Et 24-77° 6-16 hrs. gave up to 92% ppt. of the salt of the 2 components, m. 145°, when the reaction was run in EtOAc; expts. in aq. Me<sub>2</sub>CO gave only tars, omitting the sol.



KAVERZNEVA, Ye. D.; KONOVALOVA, M. I.

Synthesis of N-( $\beta$ -asparagile)-D-glucosamine, O- $\beta$ -methyl-N-( $\alpha$ -methyl- $\beta$ -L-asparagile)-D-glucosaminide and their derivatives. Izv. AN SSSR. Otd. khim. nauk no.1:124-128 '63.  
(MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Glucosamine)

KONOVALOVA, M. K.

KONOVALOVA, M. K. -- "Influence of Kemerl Mineral Drinking Water, Which was Discovered in 1948, on Certain Aspects of the Water-Salt Exchange." Acad Sci Latvian SSR Inst of Experimental Medicine, 1954 (Dissertation for the Degree of Candidate of Biological Sciences)

SO: Izvestiya Ak. Nauk Latvyskov SSR, No. 9, Sept., 1955

KONOVALOVA, M. (Riga)

Effect of hydrogen sulfide baths on arterial blood pressure,  
electroplethysmogram of the brain and peripheral vessels. Report 1.  
Vestis Latv ak no.10:171-176 '59. (EEAI 9:10)

1. Akademiya nauk Latvyskoy SSR, Institut eksperimental'noy  
meditsiny.

(HYDROGEN SULFIDE)  
(BATHS, MEDICATED)  
(BLOOD PRESSURE)  
(PLETHYSMOGRAPH)

KONOVALOVA, M. (Riga)

Effect of the mineral water from Adamova Spring on the stomach  
secretory and evacuatory functions. Vestis Latv ak no.1:153-159  
'60. (EEAI 9:11)

1. Akademiya nauk Latviyskoy SSR, Institut eksperimental'noy  
meditsiny.  
(LATVIA--MINERAL WATERS)  
(STOMACH)

KONOVALOVA, M. (Riga)

Effect of dibazol on certain indexes of peripheral and cerebral circulation of the blood. Vestis Latv ak no.2:161-164 '60.

(EEAI 10:1)

1. Akademiya nauk Latviyskoy SSR, Institut eksperimental'noy meditsiny.

(BLOOD)

(DIBAZOL)

KONOVALOVA, M. (Riga)

Reflexive effect of Kemerl drinking mineral water on the size of the spleen. Vestis Latv ak no.6:167-172 '60.

(EEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut eksperimental'noy meditsiny.

(REFLEXES) (LATVIA—MINERAL WATERS) (SPLEEN)

17(2)

AUTHORS: Grif, F.S. and Konovalova, M.P.

SOV/16-59-6-27/46

TITLE: The Duration of Viability of Shigella Shigae in Excretia. Author's Summary

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959, <sup>32</sup> Nr 6, p 120 (USSR)

ABSTRACT: The authors carried out tests to determine the viability of Shigella shigae in stools and the chances of culturing them at various periods of time after the sample has been taken. The results showed that it is not essential to culture the stool samples in the first 1-2 hours after defecation, nor to resort to preserving agents, since the Shigella can survive for long periods (5-63 days). On the first or second day after defecation the Shigella shigae could be cultured in 85.3% of the cases (where, naturally, the original stool sample was positive). The microbes could be cultured in the remaining 14.7% of the cases by subcultures on a nutrient medium. Thus, after the first obligatory cultivation of stool samples on the first day that they arrive in the laboratory, it is

Card 1/2

The Duration of Viability of Shigella Shigae in Excretia. Author's Summary.

SOV/16-59-6-27/46

necessary to subject suspect samples to reculture on the second day to test for the presence of Shigella shigae.

ASSOCIATION: Sanitarno-epidemiologicheskaya stantsiya petrogradskogo rayona Leningrada (Sanitary-epidemiological Station of the Petrograd District of Leningrad)

SUBMITTED: August 13, 1958

Card 2/2

IVANOV, A.V.; FOTIYEVA, N.N.; OSIPOVA, R.P.; KONOVALOVA, N.V.

Stratigraphy, and oil and gas potentials of Permian sediments  
in the southeastern part of the Pechora Depression and upper  
Pechora Valley. Trudy VNIIGRI no.133:204-232 '59.

(MIRA 13:1)

(Pechora Valley--Petroleum geology)  
(Pechora Valley--Gas, Natural--Geology)

KONOVALOVA, M.V.

New Late Carboniferous and Early Permian fusulinids in the Timan-Pechora region. Paleont.zhur. no.1:47-57 '62. (MIRA 15:3)

1. Ukhtinskoye geologicheskoye upravleniye.  
(Pechora Valley--Foraminifera, Fossil)  
(Timan Ridge--Foraminifera, Fossil)

KONOVALOVA, M.V.

New species of Sakmara Foraminifera of the Timan-Pechora area.  
Paleont. zhur. no.3:16-23 '62. (MIRA 15:9)

1. Ukhtinskoye geologicheskoye upravleniye.  
(Pechora Valley--Foraminifera, Fossil)  
(Timan Ridge--Foraminifera, Fossil)

("Lifetime" were found to depend upon one method of preparation.)  
Card 1/2 UDC: 621.319.2:547.583.6:547.583.2

0926 0270

ACC NR: AP7003651

substantial differences between electrets of N'-acryloyl- and N'-acetylsubstituted arylsulfohydrazides were observed, determined by the nature of the acyl radical. For the N'-acryloyl derivatives, the highest charge was obtained in electrets prepared from H'-acryloyl derivatives of p-nitro- and p-iodobenzenesulfohydrazides, while for the acylsubstituted derivatives, the highest charge was observed in the electrets prepared from N'-acetylbenzenesulfohydrazide, unsubstituted in the aromatic ring. The best mechanical properties (ability for tri.ication when heated 10-15° above the melting point, high mechanical strength) and the longest "lifetime" were manifested by electrets of arylsulfohydrazides containing unsaturated aliphatic carboxylic acid residues in the N'-position. Orig. art. has: 3 tablen. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 24Apr65 / ORIG REF: 004 / OTH REF: 004

Card 2/2 Jb

DZHIDZHELA, A.B.; KONOVALOVA, M.Ya.; KOSTENKO, V.I.; DYKHANOV, N.N.

Study of organic electrets. Part 1: Hydrazides of aromatic sulfonic acids. Zhur. ob. khim. 35 no.5:831-833 My '65.  
(MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov, stsintillyatsionnykh materialov i osobo chistykh khimicheskikh veshchestv, Khar'kov.

~~KONOVALOVA M. Z.~~

Electromarcosis in the treatment of skull and brain injuries.  
Zdrav. Kazakh. 17 no.9:35-39 '57. (MIRA 12:6)

1. Iz kliniki obshchey khirurgii Kazakhskogo gosudarstvennogo  
meditsinskogo instituta i Instituta khirurgii AN KazSSR.  
(BRAIN--WOUNDS AND INJURIES)(ELECTRIC ANESTHESIA)

YEVDOKIMOVA, N.S.; KONOVALOVA, M.Z.

Phagocytic reaction in patients with rheumatic fever. Zdrav. Kazakh.  
21 no.1:40-43 '61. (MIRA 14:3)

1. Iz kafedry mikrobiologii (zav. - professor E.I.Shtikkel') i  
kafedry fakul'tetskoy terapii (zav. - dotsent Ye.A.Mezenchuk)  
Kazakhskogo meditsinskogo instituta.  
(PHAGOCYTOSIS) (RHEUMATIC FEVER)

<p>CA <i>KONOVA LOVA, N. A.</i> 19</p>																									
<p>The use of quartz glass tubes. P. A. Kuriyankin and  <del>N. A. Konova-lova</del>. <i>J. Chem. Ind. (U. S. S. R.)</i> 17, No          7, 45-6 (1940).—Clear quartz tubes resist internal pressure          better than vitreous or nontransparent ones. H. M. Leicester</p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>142000 00</p>													<p>142000 00</p>												
<p>142000 00</p>													<p>142000 00</p>												

KONOVALOVA, N. A.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62265

Author: Kurlyankin, F. A., Konovalova, N. A.

Institution: None

Title: Mechanical Strength of Quartz Glass at Different Temperatures

Original

Periodical: Tr. Leningr. tekhnol. in-ta im. Lensovet, 1955, No 34, 58-67

Abstract: Investigation of mechanical properties of transparent and opaque quartz glasses at 20-1,200°. Transparent quartz glass of composition (in %):  $\text{SiO}_2$  99.9;  $\text{R}_2\text{O}_3$  0.01;  $\text{CaO}$  0.01;  $\text{MgO}$  0.005;  $\text{R}_2\text{O}$  0.02; extraneous admixtures 0.20. Opaque quartz glass of composition (in %):  $\text{SiO}_2$  99.5;  $\text{R}_2\text{O}_3$  0.30;  $\text{CaO}$  0.21;  $\text{MgO}$  0.03; extraneous admixtures 0.15;  $\text{R}_2\text{O}$  not determined. Investigated was the bending strength of specimens of the transparent glass in the shape of rods of circular cross sections 10-14 mm in diameter, 110 mm long, with fused surfaces, and of opaque glass in the shape of bars with square

Card 1/3

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62265

Abstract: cross section, measuring 15 x 15 x 110 mm with ground sides. Mean value of bending strength of transparent quartz glass (at 23°) was 1,131.2 kg/cm<sup>2</sup>, that of the opaque glass 455 kg/cm<sup>2</sup>. The tests revealed that bending strength of both transparent and opaque quartz glass increases with rising temperature already at 200° and at 1,200° it is increased, in comparison with its value at 200°, by 36% in the case of opaque glass and by 52% in the case of the transparent. A study was made of the resistance of quartz glasses to impact flexure; tested were specimens in the form of square cross section bars, with ground surfaces, measuring 15 x 15 x 115 (transparent) and 22.5 x 22.5 x 115 mm (opaque). Breaking energy on impact flexure (at ordinary temperature) was of 0.85 kGm/cm<sup>2</sup> for opaque glass and 1.08 kGm/cm<sup>2</sup> for transparent glass. With increase in temperature it increased and at 1,200° attained, respectively, 1.48 and 1.74 kGm/cm<sup>2</sup>. Polished specimens had a strength exceeding by 12% that of ground specimens. Tensile strength determined at ordinary temperature was of 226 kg/cm<sup>2</sup> for opaque and of 734 kg/cm<sup>2</sup> for transparent glass. With increase in temperature tensile

Card 2/3

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62265

Abstract: strength increased and rose at 1,200° by 74% in the case of the opaque glass and by 60% in the case of the transparent glass. Compression strength of quartz glass samples in the shape of cubes with 25 mm edges and ground surfaces was at ordinary temperature 3,122 kg/cm<sup>2</sup> for the opaque glass and 6,556 kg/cm<sup>2</sup> for the transparent. Strength of polished specimens was 8-10% higher. Lower strength of opaque glass as compared with the transparent is due to chemical heterogeneity (unfused quartz granules) and greater amount of small bubbles (300,000 to 900,000 bubbles per one cm<sup>3</sup>, the volume of the voids amounting to 4-5%). Chemical heterogeneity and bubbles are the cause of the formation of internal fissures which contribute to the breakdown of the glass. Increase in mechanical strength of quartz glass with increasing temperature is due to decreasing brittleness of the material.

Card 3/3